

1                    --        63.     The method of claim 2 wherein said density is from about 11 to about  
2        13 pounds per gallon.   --

1                    --        64.     The method of claim 14 wherein said density is from about 11 to about  
2        13 pounds per gallon.   --

1                    --        65.     The method of claim 15 wherein said density is from about 11 to about  
2        13 pounds per gallon.   --

### **REMARKS**

#### **Objection to the Specification**

The examiner objected to the brackets in the specification at page 10, lines 18-21. The amendments to the specification change the brackets to parentheses.

#### **Obviousness Rejections**

##### **-The Applicable Standards for Obviousness rejections**

The examiner has the burden to establish a *prima facie* case of obviousness of the pending claims on any grounds. MPEP 2142; *In re Oetiker*, 24 U.S.P.Q.2d 1443 (Fed. Cir. 1992). If examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more, the applicant is entitled to grant of the patent. *In re Oetiker*, 24 U.S.P.Q.2d 1443; MPEP 2142.

In order for the examiner to establish that the claims are *prima facie* obvious over the prior art, the examiner must point to two things in the prior art, and not in the applicant's disclosure--(1) the suggestion of the invention, and (2) the expectation of its success. *In re Vaeck*, 20 U.S.P.Q.2d

1438, 1442 (Fed. Cir. 1991). See also MPEP 2143. The fact that a claimed invention could be derived by modifying one cited reference to incorporate something not taught or suggested by the reference, itself, or by another cited reference does not render the invention obvious unless the **references themselves** teach or suggest the desirability of making such a modification. MPEP 2143.01; *In re Brouwer*, 37 U.S.P.Q.2d 1663, 1666 (Fed. Cir. 1995). Any conclusion to the contrary would be engaging in impermissible hindsight reconstruction of the reference(s) using the claims as a template instead of using what is actually taught in the reference(s), themselves. "It is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious. . . . '[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.'" *In re Fritsch*, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992), citing *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

**-Rejection over "DD" alone**

The examiner rejected claims 1-10, 15-20, 26, and 27 on the grounds that they are obvious over DD 240559. The examiner contends that DD discloses adding a starch to a (precursor) NaCl solution and that a "final brine" is formed by adding  $MgCl_2$  to the resulting solution. The examiner admits that DD does not teach the formation of a polymer dispersion, but contends that a polymer dispersion is what would be formed when starch is added to a suspension of NaCl at the stated density. The examiner contends that DD teaches mixing the same components at the same concentrations for the same reasons to achieve the same results.

Since DD was an English abstract of the cited reference, Applicants are providing herewith a full copy of DD along with Form 1449 listing that reference.

Claims 4-6, 17-20, and 26 have been canceled. The remaining claims have been amended, and new claims have been added which specify that the precursor brine to which the water-soluble polymer is added comprises a salt comprising cations “consisting essentially of multivalent alkaline earth metals.” Many claims, including independent claim 14, limit the salt in the precursor brine to specific calcium salts. DD teaches a “precursor brine” in which the salt is sodium chloride--a salt of a monovalent alkaline earth metal (sodium).

The examiner has not created a case of *prima facie* obviousness of any of the amended or new claims over DD, alone, because the examiner has not pointed to a teaching or suggestion in DD that would motivate a person of ordinary skill in the art to modify DD to replace the sodium chloride in DD's initial or “precursor” brine with a salt of a multivalent alkaline earth metal, particularly a calcium salt. MPEP 2143.01; *In re Brouwer*, 37 U.S.P.Q.2d at 1666.

**-Rejection over DD in view of Mondshine and House**

The examiner rejected claims 11-14 and 21-25 over DD in view of Mondshine and House. The examiner acknowledges that DD “does not speak specifically to calcium chloride and calcium bromide as the brine components,” but contends that these calcium salts are well-known components of brine, and that they are well-known to form dispersions of high densities. The examiner contends that calcium salts and polymers are both “known as components in brines as well in slurries to which starch has been added and used in well drilling operations. The use of starches in brines is known to increase viscosity and rheology, as shown by House.” House is said to teach that the addition of starches to have brines of calcium salts has a positive effect on rheology, citing col. 2, and claims 15-18. Mondshine is said to teach the use of starch in brines (including calcium brines) as a fluid loss control agent (col. 6-7).

-Mondshine

Applicants do not dispute that it is known to use water-soluble polymers, such as starch, as agents for various purposes in brines. Mondshine and House are evidence of this fact. However, the examiner has not pointed to anything in Mondshine or House which would motivate a person of ordinary skill in the art to modify DD **to substitute a precursor brine comprising a salt of a multivalent alkaline earth metal for DD's sodium chloride solution.**

Mondshine does list calcium chloride and calcium bromide as two of eight suitable salts for forming a "final brine." However, Mondshine also lists six other salts for use in preparing Mondshine's final brines--each of which is either a potassium or a sodium derived salt. Mondshine further teaches that potassium chloride and sodium chloride are preferred salts "due to their availability and cost." Col. 2, ll. 44-46. Even if Mondshine was describing a "precursor brine" for prehydrating polymers (as opposed to a "final brine")-- Mondshine's choice of potassium and sodium chloride would teach away from choosing calcium salts from Mondshine's list of suitable salts to form that brine. This is strong evidence of non-obviousness. *In re Hedges*, 228 U.S.P.Q. 685, 687 (Fed. Cir. 1986), quoting *W. L. Gore & Assoc. v. Garlock, Inc.*, 220 U.S.P.Q. 303, 312 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). Finally, the examiner has failed to point to any teaching in Mondshine which even relates to using a "precursor brine" used to prehydrate starch or other water-soluble polymers **before** addition to a final brine.

-House

The examiner similarly has not pointed to any teaching in House to use a brine to prehydrate water soluble polymers at all. The examiner certainly has not pointed to any teaching or suggestion

in House which would **motivate a person of ordinary skill in the art to substitute a brine comprising a salt of a multivalent alkaline earth metal for DD's sodium chloride solution.**

House acknowledges the problem addressed by the claims at col. 1, ll. 19-32:

It is known to use hydrophilic polymeric materials as thickening agents for aqueous mediums used in such well servicing fluids. However, many hydrophilic polymers are not readily hydrated, solvated or dispersed in aqueous systems without elevated temperatures and/or mixing under high shear for extended periods of time. For example, many such polymers are poorly hydrated, solvated or dispersed in aqueous solutions containing one or more multivalent cation water soluble salts, such as heavy brines which are commonly used in well servicing fluids. In many cases, as for example in workover operations, the equipment available for preparing the well servicing fluids does not readily lend itself to high temperature, high shear mixing. Accordingly, it is usually necessary, if it is desired to use such thickened brines to prepare them off the well site.

House avoids the need to prepare brines off the well site by "solvating" the polymers using a "solvating agent." House forms a precursor mixture which contains the polymer, "a solvating agent, and a diluting agent which is a non-solvating agent for the polymer." Col. 1, ll. 52-59.

House describes his solvating agent as follows:

a water miscible, polar organic liquid which when uniformly mixed, as by spatulating, with the polymer in a weight ratio of polymer to solvating agent of 1:2 will produce a viscous to semisolid mixture with no free liquid (solvating agent) present after the mixture sets for approximately one week at ambient temperature, in a sealed container. Preferably, there is also included a compatibilizing agent which has the capability of gelling the diluting agent.

House, col. 1, ll. 59-68. Both the solvating agent and the diluting agent are described as "organic" materials. Col 3, ll. 11-14 ("Generally speaking, it has been found that virtually any organic compound which passes the solvation test described above will function, to a usable degree, as a solvating agent."); Col. 3, ll. 30-32 ("The diluting agent, in general, will be any liquid organic compound or material which is not a solvating agent."). The compatibilizing agents described at col. 3, ll. 58-58 include an "organophilic clay" and a "finely divided siliceous material." The examiner has not pointed to a teaching in House to use a brine for any purpose besides as a "final brine."

The examiner has pointed to nothing in House that would motivate a person of ordinary skill in the art to substitute a brine of a multivalent alkaline earth metal for DD's sodium chloride solution, or for House's solvating agent, to form a precursor polymer dispersion. The examiner therefore has not established a case of *prima facie* obviousness over DD, Mondshine and House. MPEP 2143.01; *In re Brouwer*, 37 U.S.P.Q.2d at 1666.

### **CONCLUSION**

For all of the foregoing reasons, Applicants respectfully request entry of the foregoing amendments, reconsideration, and allowance of all of the pending claims. The Commissioner is authorized to charge any fees required by this paper to Deposit Account No. 02-0429 (154-9245).

Respectfully submitted,



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### **CERTIFICATE OF MAILING**

I hereby certify that this paper, along with any referred to as being attached or enclosed, is being forwarded to \_\_\_\_\_, Assistant Commissioner for Patents, Washington, D.C. 20231, via the United States Postal Service, First Class mail, Postage Prepaid, on Sept. 16, 1998.

